

Amendments to the Drawings:

Please substitute the attached new formal FIGURES 1-6 for the previously filed FIGURES 1-6, filed June 20, 2003.


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BLACK LOWE & GRAHAM^{PLLC}


701 Fifth Avenue, Suite 4800
Seattle, Washington 98104
206.381.3300 • F: 206.381.3301

REMARKS

Introduction:

Claims 1 through 30 were pending in the patent application when an Office Action mailed September 6, 2005, rejected Claims 1-30. The Office Action also objected to the figures informal and requested correction of informalities in the specification.

By way of this Amendment, and without introducing new matter, the Applicants have amended the Figures, Specification, and the Claims. Applicants respectfully request entry of the amendment and reconsideration and allowance of all claims pending in this patent application.

Objections:

Objection to the Figures:

Without adding new matter, Applicant substitutes new formal FIGURES 1-6 for the previously filed FIGURES 1-6.

Objection to the Specification:

Without adding new matter, Applicant has amended the specification at pages 8 and 12 as suggested by the Examiner.

Claim Rejections:

Rejection Of Claims 1-5, 9-13, 17, 18, 20-25, and 29 Under 35 U.S.C. § 102:

The Office Action rejected Claims 1-5, 9-13, 17, 18, 20-25, and 29 under 35 U.S.C. § 102 as anticipated by Carduner et al. Without prejudice or comment as to the merit of the Examiner's rejections, independent claims 1, 9, and 21 are amended to include limitations of a first wavelength *in a first range from around 7 μm to around 8 μm* , a second wavelength *relatively greater than a roughness of the substrate surface or is in a second range from around*

10.5 μm to around 12 μm , and coated metallic substrate including aluminum with a scattering surface that is coated with a non-scattering coating of phosphoric acid anodize.

Carduner discloses methods and apparatuses to measure individual thicknesses of multi-layer paint films on substrates, including non-reflective non-metallic substrates such as plastics. Carduner discloses reference wavelengths for clear coat and paint base coats, but does not disclose wavelengths for anodize coating, nor frequencies for determining coating thicknesses for a non-specular surface of aluminum.

As noted independent claims 1, 9, and 21 are amended to include the limitations of a first wavelength *in a first range from around 7 μm to around 8 μm , a second wavelength relatively greater than a roughness of the substrate surface or is in a second range from around 10.5 μm to around 12 μm , and coated metallic substrate including aluminum with a scattering surface that is coated with a non-scattering coating of phosphoric acid anodize.*

Claims 2-3, 10-11, and 23 are withdrawn. Claim 22 is amended to include a limitation that the second wavelength *relatively greater than a roughness of the substrate surface* of Claim 21 *is in a second range from around 10.5 μm to around 12 μm .* By virtue of their dependency on from Claims 1, 9, and 21, and for other reasons, Claims 4-5, 12-13, 17, 18, 20, 22, 24-25, and 29, are patentable over the cited reference.

Rejection of Claims 6-8, 14-16, 19, 26-28, and 30, and Claims 1-8 under 35 U.S.C. § 103(a):

The Office Action rejected Claims 6-8, 14-16, 19, 26-28, and 30 under 35 U.S.C. § 103(a) as unpatentable in view of Carduner, and rejected Claims 1-8 under 35 U.S.C. § 103(a) as unpatentable in view of Sharkins. Without prejudice or comment as to the merit of the Examiner's rejections, independent claims 1, 9, and 21 are amended to include limitations of a first wavelength *in a first range from around 7 μm to around 8 μm , a second wavelength*

relatively greater than a roughness of the substrate surface or is in a second range from around 10.5 μm to around 12 μm , and coated metallic substrate including aluminum with a scattering surface that is coated with a non-scattering coating of phosphoric acid anodize.

Carduner discloses wavelengths of 750 to 2,500 nm including 2076 nm and 2028 nm. Carduner does not disclose non-specular aluminum surfaces nor phosphoric acid anodize coating.

Sharkins at Col. 9, lines 42-62, discloses transducing optical radiation reflected from a surface with a film or coating to provide an output signal which is a function of absorption of the optical radiation by the film. However, Sharkins does not disclose any wavelengths or ranges of wavelengths for the optical radiation. Sharkins does not disclose non-specular aluminum surfaces nor phosphoric acid anodize coating.

The proposed amendment above incorporates wavelengths, non-specular aluminum substrates, and phosphoric acid anodize into independent Claims 1, 9 and 21. All three independent claims 1, 6, and 20, include these limitations.

The Office Action suggests that the limitations of an anodize coating, wavelengths, non-specular aluminum substrate, are well known, without further citation. Applicants respectfully traverse this assertion and traverse any official notice of obviousness or underlying techniques making the limitations included in the amended claims obvious. MPEP 2144.03.

Applicants respectfully submit that Sharkins and Carduner do not disclose, teach, or fairly suggest the inventive methods taught by Applicants. There is no teaching or suggestion in Sharkins or Carduner of an incident infrared radiation at wavelengths including wavelengths longer than the roughness of the non-specular aluminum substrate surface being transmitted through an anodized coating of aluminum, being reflected, and transmitted back through the anodized aluminum coating of aluminum, as taught by Applicants. Furthermore, wavelength limitations are now incorporated in all independent claims. Dependent Claims 6-8, 14-15, and 26-28 including the wavelength range limitations incorporated in the independent claims are

withdrawn. Dependent Claims 2, 10 and 22 are either withdraw or amended, and their limitation of a non-specular surface is included in the independent claims with the separate wavelength and materials limitations.

Appellants note that a claimed species or subgenus is encompassed by a prior art genus is not sufficient by itself to establish a *prima facie* case of obviousness. MPEP 2144.08. Here, the prior use of infrared reflectance for determining coating thicknesses does not render this invention obvious.

Applicants therefore request entry of the Amendment and reconsideration and allowance of Claims 1, 9, and 21, as amended. From the dependency from Claims 1, 6, and 21 and for other reasons, Claims 4-5, 19, and 30 are not obvious under the cited references.

Conclusion:

Applicants respectfully submit that claims 1, 4-5, 9, 12-13, 17-20, 21-22, 24-25, and 29-30 of the pending application are now in condition for allowance. All the claims are patentable over the cited references.

Applicants respectfully request entry of the Amendment and reconsideration of allowance of all claims in this patent application. If the examiner has any questions, the examiner is invited to contact the Applicants' attorney listed below.

Respectfully submitted,

BLACK LOWE & GRAHAM^{PLLC}



Mark L. Lorpiecki
Registration No.: 45,643
Direct Dial: 206.903.1800


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BLACK LOWE & GRAHAM^{PLLC}



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Seattle, Washington 98104
206.381.3300 • F: 206.381.3301



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I hereby certify that this communication is being deposited with the United States Postal Service via first class mail under 37 C.F.R. § 1.08 on the date indicated below addressed to: MAIL STOP AMENDMENTS, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

January 6, 2006
Date of Deposit

Wendy Saxby
Wendy Saxby

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